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which in thoroughness, lucidity, in masterly treatment throughout, is rivaled by but few, excelled by none.

F. G. WIECHMANN.

SCIENTIFIC JOURNALS AND ARTICLES.

THE *Botanical Gazette* for June contains the following articles: Dr. Roland Thaxter publishes a further contribution on the Myxobacteriaceæ, especially in reference to the work of Migula, Zukal, Miss A. L. Smith and Zederbauer; also establishing eight new species. John Donnell Smith contributes his twenty-sixth fascicle of 'Undescribed Plants from Guatemala and Other Central American States,' describing twelve new species. Thomas H. Kearney asks the question, 'Are Plants of Sea Beaches and Dunes True Halophytes?' reaching the conclusion that these are not generally halophytic. Alice Eastwood publishes fourteen new species of western Polemoniaceæ. George J. Peirce, in 'Notes on the Monterey Pine,' shows that the difference in the quantities of water and solutes drawn up through the xylem into galled and normal leaves furnishes the reason for the differences in the amount of conducting tissue as shown by the annual rings. In other words, amputated seedlings and branches bearing galled leaves develop bundles which vary from the normal according to the degree of injury which the leaves have undergone. This is confirmation of Jost's conclusion that leaves and vascular bundles are closely correlated in their development. Amon B. Plowman publishes the 'Celloidin Method for Hard Tissues' as developed and perfected by Professor E. C. Jeffrey. M. A. Chrysler publishes 'Anatomical Notes on Certain Strand Plants,' being the results of a comparative study of the leaf anatomy of certain plants in the vicinity of Woods Hole and near Lake Michigan. Charles E. Allen makes a preliminary announcement of his conclusions in reference to chromosome reduction in *Lilium canadense*, being quite different in some points from those previously maintained.

THE June issue of the *Bulletin of the Michigan Ornithological Club* contains the follow-

ing articles: 'Some Notes on the Life History of the American Redstart,' by J. Claire Wood, with a full-page cut of the species by Louis Agassiz Fuertes. Bradshaw H. Swales concludes his 'List of the Land Birds of Southeastern Michigan.' A. H. Griffith contributes 'Birds in Decoration,' which is illustrated by specimens of Japanese art from the Detroit Museum of Art. P. A. Taverner writes on the 'Tagging of Birds' as a means of solving some of the vexing problems of migration. Walter B. Barrows describes the ornithological and oological collections of the Michigan Agricultural College, which is supplemented by a half-tone of the interior. Alexander W. Blain, Jr. notes the capture of 'Three Rare Michigan Birds.' There are other notes of value and the usual reviews. With this issue Professor Barrows becomes one of the editorial staff.

SOCIETIES AND ACADEMIES.

THE RESEARCH CLUB OF THE UNIVERSITY OF MICHIGAN.

AT the meeting of the club held April 27 Dr. Novy presented the results obtained in collaboration with Mr. McNeal on the cultivation of the organisms causing trypanosomatic diseases. These investigators have been able to cultivate three of these protozoa. The organism *Trypanosoma lewisi* has now been under cultivation for two years. *T. brucei*, the cause of nagana or the tsetse-fly disease of South Africa, has been under cultivation since last August. The culture medium sent from Manila, after inoculation with the trypanosome from a cow suffering with surra, on arrival in Ann Arbor, showed an excellent culture of this organism which had developed en route. This organism was kept alive for sixty-five days, but all efforts to secure infection in animals or to obtain subcultures failed.

A comparison of the trypanosome from the Philippine surra with that from the Island of Mauritius seems to indicate that the two are entirely distinct.

The cultural characteristics of the Philippine trypanosome are such as to distinguish

it readily from *T. brucei*, the cause of the South African tsetse-fly disease. This confirms the work of Laveran and Mesnil on the non-identity of these two diseases and effectually disproves the view held by some that the various trypanosomatic diseases are due to one and the same organism.

The culture of *T. brucei* is nearly but not quite as virulent as the material from an affected animal. Such virulent cultures, developed at room temperature or at 25° C., when placed at 34° C. for two days lose their pathogenic properties; and by means of such attenuated cultures it is possible to immunize a guinea-pig. This fact is of importance, since it may have a bearing upon the prevention of these diseases.

It was further shown that cultures of *T. lewisi* at times contain very minute forms of the organism and that when such material is passed through a Berkefeld filter the resultant filtrate on inoculation into rats produces a typical infection. This goes to show that even a large protozoon may have a sufficiently small form, even if it is not ultra-microscopic, which can traverse the pores of a filter.

Dr. Novy was followed by Professor Lloyd, who read a paper on 'The History of Ethics.'

The last meeting of the year was addressed by Dr. J. E. Duerden, who gave an account of his researches on the morphology and development of recent and fossil corals, and by Dr. Geo. A. Hulett, who read a paper detailing the results of his work on standard cells.

The latter paper showed that the hydrolysis of mercurous sulfate (Hg_2SO_4), the depolarizer, has been worked out, and the effects of the hydrolytic products of the electromotive force of the cadmium cell determined. The author's method of preparing electrolytic mercurous sulfate was described, as well as methods of preventing hydrolysis in the setting up of the standard cells. The results indicate that the cells are reproducible with a variation of but a few parts in 100,000. The details will soon be published in an article on 'Mercurous Sulfate in its Relation to the Standard Cells.'

FREDERICK C. NEWCOMBE,
Secretary.

THE TORREY BOTANICAL CLUB.

THE club met April 27, 1904.

The first paper of the scientific program was by Dr. N. L. Britton, on 'Explorations in Florida and the Bahamas.' This was illustrated by maps and specimens, and described the general features of the flora of the region of the part of subtropical Florida south of Miami, to which a visit of three weeks' duration was made in March and early April with Mrs. Britton and Dr. M. A. Howe, in cooperation with Professor P. H. Rolfs, of the U. S. Subtropical Laboratory. A detailed account of the flora was not taken up, inasmuch as Dr. John K. Small, who explored the same region last autumn, and who will again visit it in May, proposes to publish a complete account of the material secured. Two genera, new to the continent, both represented in Florida by a single species, were discovered, *Alvaradoa* in hammock lands and *Sachsia* in pine lands, both of these genera existing also in Cuba and in the Bahamas.

Dr. C. F. Millspaugh, of the Field Columbian Museum, joined the party early in April, and the Island of New Providence in the Bahamas was partially explored. The distribution of plants of this island was described, the littoral zone containing many common West Indian and Floridan species, of which the most characteristic are, perhaps, the shrubs *Jacquinia Keyensis* and *Salmea petrobioides* the latter endemic in the Bahamas.

Between the littoral zone and the interior regions of the island there is in places a plant society, which may be termed an intermediate one, characterized by such shrubs as *Buxus Bahamensis*, *Banara reticulata*, *Calliandra formosa*.

The pine lands (*Pinus Bahamensis*) contain among other species, *Pteridium caudatum*, *Vernonia Bahamensis* and *Byrsonima lucida*, as characteristic species. The palmetto lands (apparently *Inodes Palmetto*) contain more herbaceous vegetation than the other regions including *Linum Bahamensis*, *Sachsia Bahamensis* and *Sabbatia campanulata*, though also having a considerable number of shrubs. The 'coppets' or 'hammocks,' as they are called in Florida, are areas devoid of either pines or

palmettos and often occupy isolated areas entirely surrounded by pine forests as in southern Florida; characteristic trees of these hammocks are *Dipholis salicifolia*, *Eugenia confusa*, *Icacorea paniculata* and *Coccolobis laurifolia*, all of which occur in similar situations in Florida.

Dr. C. F. Millspaugh, who was with Dr. Britton and remained somewhat longer, was asked to discuss the paper. He reported that plants found in bloom at the center of the island were found in fruit at the west end, while at the east end, which is dry and rocky, the buds of the same species were scarcely started. South Bemini is much like New Providence in vegetation, though its elevation is less. A *Rhus* resembling *R. toxicodendron* was found on Cat Cay and there is an interesting palm on the same island.

Inquiry was made concerning *Croton Eluteria*, which is prized in West Indian countries as a bitter drug, but is said to be disappearing. The plant had not been seen, but a guide said that it grew on South Bemini.

Professor Underwood called attention to *Odontosoria clavata*, which in Jamaica and Cuba grows in very wet places and is a soft tender plant, while in the Bahamas what is apparently the same species grows in dry pot-holes and is firmer and stronger.

The second paper was by Dr. D. T. MacDougal on 'Desert and Delta Vegetation of Sonora and Baja, California.' The Colorado River has been called the Nile of America. It flows 600 miles without tributaries and has a delta 150 to 200 miles long by 50 to 100 miles broad. In this region is the most pronounced desert in the United States and probably in America. The topography of the region may be described as a great basin with the Colorado River flowing along the eastern margin. The Salton basin is 400 feet below sea level and in times of unusual flood is transformed into a great lake by overflow of the Colorado River, the last such flood occurring in 1891, when part of the track of the Southern Pacific Railroad was under water. At one point in this basin there has been an elevation of mud volcanoes from ten to fifty feet high, where there are hot sulphur springs. The dry

season is from August to April or May. At the end of the wet season the Indians dig holes deep enough to get into and plant their corn and melons in these. The surface of the ground becomes very dry, but enough moisture is retained to mature the crops. Within a few yards of the river channels relative humidities of eleven, twelve or thirteen per cent. were observed. The temperature of the summer flood water is 45° to 55°, while the air temperatures are the highest to be found in the country, 100° to 125°. At the lower end of the delta is a region of brackish water.

Distichlis spicata is widely distributed on the mud flats; the Mexican poplar, an unidentified willow and the mesquite were the trees observed, while the arrow-weed forms almost impenetrable thickets. Within the width of a few yards one passes from river vegetation to true desert.

Ammobroma Sonoræ, described by Torrey, has a stem two to four feet long, all buried except the head. It is parasitic on *Atriplex* roots. A puff ball with the same form and similar appearance was found, but it was too brittle to stand carrying.

The east coast of Baja, California, near the head of the Gulf, is supposed to be the driest spot in America. One half inch of rain only has been recorded at Yuma during 1903, and Palmer visited an island in the gulf in 1889 which had no rain for a year and a half. Landings were made at three points, the farthest at San Felipe Bay, 55 miles below the river. Mr. Brandegee visited San Luis Bay once, but the San Felipe region was entirely unexplored by botanists. Here the coast rises by gradual slope to 500 feet and then by precipitous rocks to peaks, one of which is over 10,000 feet high. The seasons are evidently irregular and not clearly marked. Many of the plants have milky or resinous juice and many are aromatic. *Cereus Schottii* was found forming dense groves near San Felipe. Living plants of what is probably *Cereus Pecten-aboriginum* were brought home. The Indian-comb cactus has a short trunk and long branches in contrast to the usual form of *C. giganteus*.

Although the plants are very sparse it is not

to be supposed that they have a harder struggle for existence than others, as is shown by trying to grow them under artificial conditions. *Fouquieria splendens* seems to reach its optimum development in the delta lands. Cactuses with sheathing spines were noted and some of these shed their spines. The flora is not Arizonian. In San Felipe there are no plants with storage organs, for there is no surplus of water to store.

In the discussion it was mentioned that the poison cacti are all unarmed.

Professor Underwood remarked on a specimen of the southern brake sent from Burlington, Vt. This form described in recent years as *Pteris aquilina* var. *pseudocaudata* by Clute, is the *Pteris latiuscula* Desv., described in 1827.

WILLIAM T. HORNE,
Secretary pro tem.

SCIENCE CLUB, UNIVERSITY OF MISSISSIPPI.

THE last regular meeting of the club for the year 1903-4 was held May 20 in the chemical lecture room.

Mr. H. R. Fulton read a paper the purpose of which was to give some account of the life histories and habits of the common mosquitoes. It was stated that of the thirty species of mosquitoes occurring in North America, ten have been found in Mississippi. Attention was directed particularly to three genera: *Culex*, *Stegomyia* and *Anopheles*. The first was said to be the most numerous and widely distributed, not, however, transmitting disease, so far as known, and important chiefly because of the annoyance which it occasions. The second, found in many of the southern states and flourishing in the tropics, was charged with being certainly instrumental in the transmission of yellow fever. The last, also widely distributed, was said to convey malaria.

The four distinct stages—egg, larva, pupa, adult—in the complete metamorphosis through which every mosquito passes in its development were fully treated, as, also, the peculiarities of size, shape, markings, movements, etc., which differentiate the three genera.

Length of flight, local breeding places and the methods used by the author of the paper

in attempting to check and exterminate mosquitoes in this vicinity were discussed.

In speaking of the movements of the larva of *Culex*, Mr. Fulton stated that he had observed a movement of which he had found no mention, this being in a horizontal plane, taking place as the larva moves under the surface or over the bottom or through the intermediate water, unaccompanied by violent body-movements, and probably caused by rapid vibrations of the numerous hair-like processes covering the body.

Dr. J. B. Bullitt added some remarks on those mosquitoes which transmit malaria and yellow fever.

ALFRED HUME,
Secretary.

DISCUSSION AND CORRESPONDENCE.

A CASE OF PLAGIARISM.

TO THE EDITOR OF SCIENCE: In a note on 'The Mechanism of the Mont Pelée Spine' (SCIENCE, June 17, 1904), I say: 'So far as the literature has come to my attention, it has failed to include a factor which appears to me of prime importance,' etc. Through this sentence I claim originality, and presumptive novelty, for an idea which I now know not to have been novel, and think not to have been original. The idea was published six months earlier by Dr. A. C. Lane in a note on 'Absorbed Gases and Vulcanism' (SCIENCE, December 11, 1903). It is not necessary, in dealing with my friend Dr. Lane, that I disclaim intentional plagiarism, but, as I find interest in the mental process of my blunder, I venture to relate what I suppose to be its history. It is altogether probable that I read Dr. Lane's note when it appeared, but the mental impression it made was so faint that in re-reading it now I can not definitely remember seeing it before. Nearly a half year later an idea as to the Pelée spine occurred to me and I wrote it out for publication. While I supposed the idea original, there was in my mind a faint suspicion that the suggestion might have come from some outside source, and this suspicion led me to search all the literature of the spine that I could recall having seen—but I did not recall that Dr. Lane had made a contribution. Thus a